



## ORSA, the corner stone of the Solvency II regime

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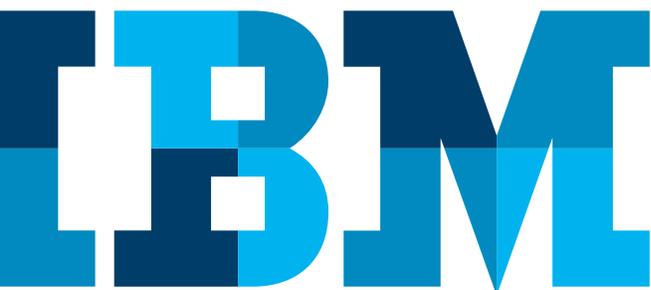
### Abstract

The move toward principle-based regulations across the European insurance World puts a strong emphasis on corporate governance programs. Under their Own Risk and Solvency Assessment (ORSA) plans, insurance firms have to align their enterprise risk management processes with their strategic business plans. This represents cultural, technical and operational challenges to overcome. These requirements will give many firms an opportunity to establish a common risk language among their teams, and help in their dialogue with regulators, rating agencies, market analysts and shareholders.

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The arrival of the Solvency II (SII) regulation framework marks an important change for insurance companies operating in the European Union. Using a principle-based regulatory approach, European insurance supervisors have articulated amended solvency requirements around a three-pillar directive. These requirements include quantitative measures of risk and capital (Pillar 1), qualitative assessments of risk and corporate governance (Pillar 2) and a supervisor reporting and public disclosure framework (Pillar 3). Although these pillars represent different aspects of Solvency II, a core element binds these elements together. It is the need for insurance companies to define a firm-specific governance framework also known as ORSA (Own Risk and Solvency Assessment), and to embed enterprise risk management into decisionmaking processes. Because of its central position, the ORSA is often referred to as “the heart of Solvency II”. In other insurance markets such as Switzerland, a strong corporate governance program is already required (Swiss Solvency Test, SST). Other countries around the Globe may soon follow this trend. For example, the US are introducing their Risk Management and Own Risk & Solvency Assessment (RMORSA) for most US insurers under the Solvency Modernization Initiative which is expected to be effective in 2015.

This article looks, in more detail, at some of the main Solvency II ORSA requirements, and how European insurance companies can use enterprise risk management platforms to support these key management needs.



### Building on the existing

As highlighted by supervisors in public documentations (EIOPA-CP-11/008)<sup>1</sup> ORSA should adequately identify, measure, monitor and manage group-specific risk interdependencies in the insurance group and their impact on the group risk profile. While the overall corporate governance program is formally owned by the board (Administrative, Management, Supervisory Board—AMSB), it does involve different groups across the organization. This may include group-level and business unit representatives, data and IT teams, actuarial, distribution, compliance, risk and Asset Liability Management (ALM) specialists. Operationally though, the risk management teams are responsible for the daily management of the ORSA.

Company-specific by nature, the ORSA leverages outputs from valuation and risk models designed to address the quantitative requirements set under Pillar 1. These outputs may be based on group/local market data feeds and existing

valuation results. The risk/capital modelling approach can be based on either a prescribed “standard formula” or a bespoke internal model. When an internal model is developed, it will be widely used in the group or entity’s ORSA. The formal “Use Test” — a separate Pillar 2 requirement — will validate the internal model assumptions, its broad understanding and business acceptance in the firm’s ORSA process.

For users of enterprise risk management (ERM) software platforms, Pillar 1 solutions are most often built around internal models and complex corporate trees. Data flows and aggregation hierarchies are defined to reflect the idiosyncrasies of international insurance group structures along with their different solo entities. As shown in the figure below, users can link these multiple business lines across different markets, measure, aggregate market/ non-market risks and assess diversification effects under their internal model’s assumptions. With Solvency Capital Requirements (SCR) estimation in mind, business users can run balance sheet simulations under their stochastic scenario sets.

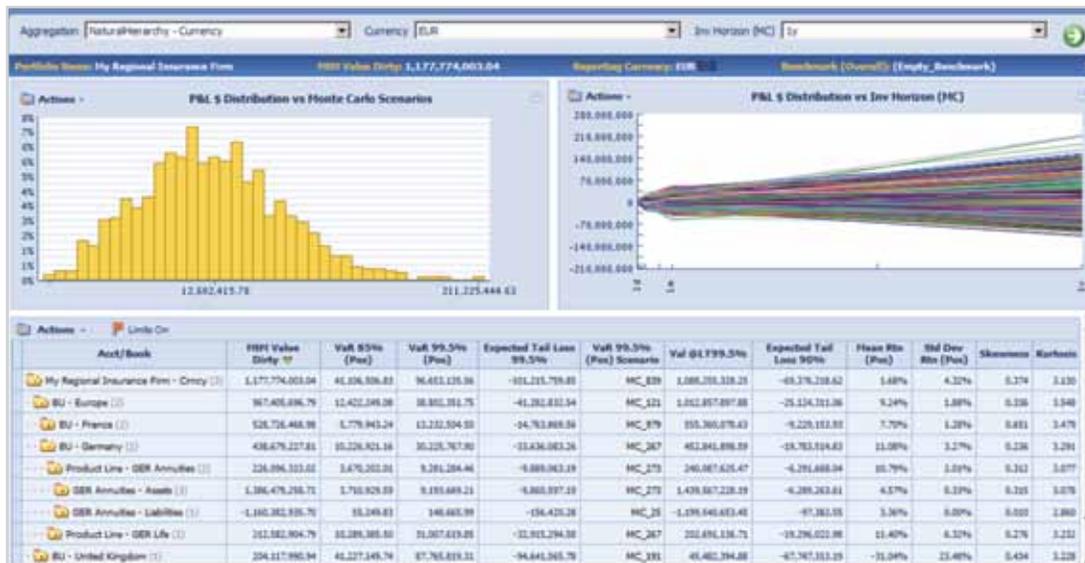


Figure 1: Enterprise risk management dashboard.

While Pillar 1 risk measures and time horizon have to meet a prescribed 1Y Value-at-Risk format, Pillar 2 economic capital estimations have a slightly different focus. These measures should be linked to the forward-looking solvency needs of the firm, its strategic management process and overall decision-making framework. As such, these economic capital ratios will account for all risks the firm is exposed to, quantifiable or not. For ERM platform users, these separate Pillar 2 requirements can consistently leverage the same modelling approach used in Pillar 1, with similar data feeds, common pricing libraries and simulated return distributions for assets and liabilities. These users can then define their own risk ratios at a specified time horizon, from the various moments of the distribution results to expected tail losses (ETL) at various confidence levels, or nodes of the firm's hierarchy.

### **Evolutionary Process**

Solvency II policy makers have encapsulated, within ORSA, a mindset that requires management teams to refine the definition of the firm's risk appetite and embed risk management best practises throughout the different business functions of European insurance companies. Unlike prescriptive "to do" lists, this forward-looking assessment will evolve as firms reach the different stages of their own business cycles or face adverse market situations. These governance program changes can also be driven by simple operational aspects. For example, the phased improvement of asset data feeds (frequency, granularity) can lead to a more detailed risk modelling approach of a firm's global investment universe. Similarly, regularization tools and improved risk factor data in areas such as credit spreads may lead to the construction of covariance matrices more adapted to support a specific decision-making process under ORSA. Other amendment types may include the regular on-boarding of new financial instrument types in the construction of liability-replicating portfolios, such as more granular swaption ranges or market index-based Asian options.

The more frequent calibration of local curve fitting functions as a result of regular scenario or factor reviews is another area of possible process evolution in the ORSA context. In these 4 specific examples, ERM software users should define their own process enhancements with the support of workflow management software tools.

As shown in Figure 2 below, browser-enabled workflow management applications allow designated business users to set and control corporate tree modifications, map different assets to a broad range of valuation models or review and validate liability proxies across the firm. These business user can also associate factor co-dependency structures to given stochastic scenario sets used in their solvency simulations, or run stress test scenarios on validated data sets. All of these actions can be performed under a flexible 4-eye principle defined around specific workflow sequences: data preparation, modelling, Solvency II calculations, dashboard updates.

The usage of workflow management tools designed to support Solvency II business processes can simplify complex operational changes. These amendments can affect large scale data flows, valuation model transitions and high volume simulation runs required to feed an enterprise-wide ORSA program and related reporting.

### Hope for the best, plan for the worst

As key decision makers in the insurance firm, AMSB members are the formal owners of the Solvency II ORSA. They will help ensure the ongoing solvency assessments remain aligned with the corporate business plans, its risk profile and account for on and off-balance sheet risks at group level. For users of firm-wide simulation platforms, these ad-hoc requirements can most often leverage existing Pillar 1 data, valuation, simulation workflows. For example, the definition and performance of ad-hoc “What if” analysis may include historical replays such as “Year 2008”.

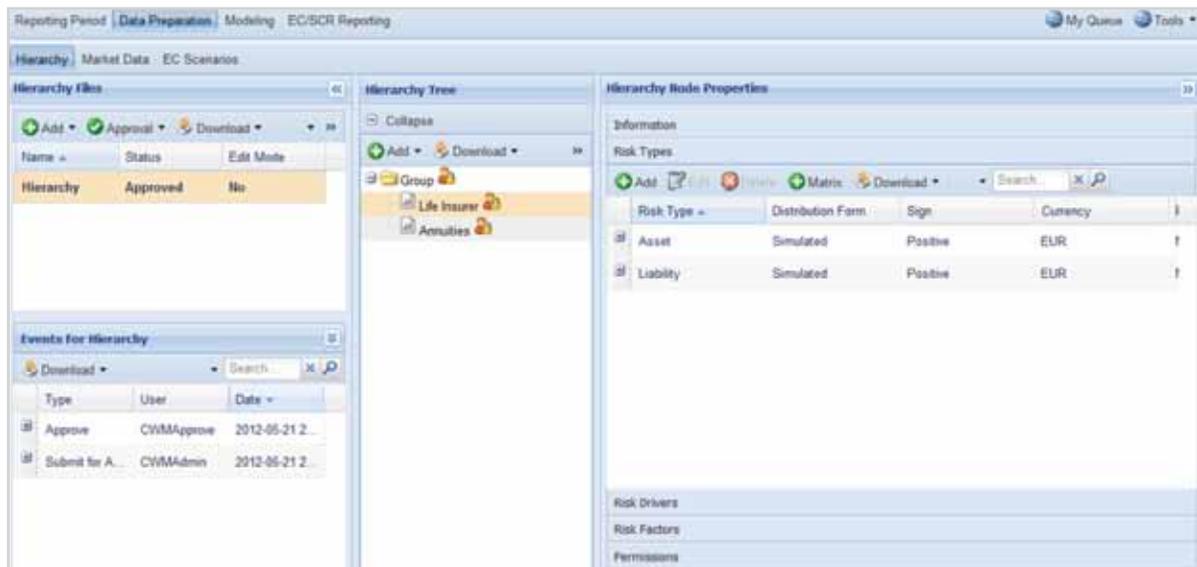


Figure 2: Workflow management example.

Another example of such analysis could reflect a combined series of user-defined shocks applied to regional risk drivers. For business consumers of these stress scenario outputs, expected next steps under ORSA (and the internal model Use Test) involve the layout of management action plans and a clear agreement on the decision chains. Advanced ERM tools can be used to perform different user-defined hedge analysis in response to such financial stresses.

ORSA-relevant scenarios can also include heavier computational simulations on the overall company structure. Guided by proportionality principles, these complex scenarios can be designed to reflect changes in risk and/or dependence modelling assumptions. Because ORSA has to match the firm's business plans and be linked to strategic decisions, pre-defined scenarios can be used at group level to also assess the solvency impact of a new product line or hypothetical corporate change, for example, spin-off or acquisition.

Leveraging an ERM platform's modular design, core risk management/SII users should have central access to positionlevel data, valuation models and scenario sets at different corporate tree levels. From an ORSA perspective, this allows ERM software users to more easily retrieve idiosyncratic scenarios for solvency simulations at group, region, business unit and/or solo entity levels. This fosters greater modelling and risk management consistency across the entire insurance company.

## Conclusions

As highlighted in the previous sections of this article, ORSA is considered a central piece of the Solvency II framework. Equivalent requirements are at the core of the Swiss SST, and now appear in the American SMI initiative. Firm-specific by nature, this core Pillar-2 requirement focuses on corporate governance. Leveraging an internal model—when available—and a formal “Use Test” output, ORSA requires European insurance firms to constantly align their decision-making processes, risk management

framework and corporate strategic business plans. It means covering different risk types and business lines across an insurance group, beyond the sole quantitative Pillar 1 scope. It also means that firms need to define easy-to-use risk management processes — and reporting — able to evolve, possibly linking corporate balance sheet simulations and insurance product innovation cycles. As such, these processes need to be built on robust software platforms able to address current and future corporate requirements.

ORSA may well be “the heart of Solvency II”. It also reflects the essence of enterprise risk management:

- Define a consistent framework providing a holistic view of the firm’s businesses.
- Establish a common risk language among the different corporate functions.
- Provide a timely risk assessment of the firm to regulatory bodies, ratings agencies, market analysts and the firm’s own shareholders.

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Route 100  
Somers, NY 10589

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